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Abstracts
Original research from Africa

To improve the state of Emergency Care in Africa, African Emergency Medicine will need to step up to the task. As a good indication of positive moves towards this, the abstracts published here all originate from Africa. They are a mix of presentation and poster abstracts from the Emergency Medicine in the Developing World conference, November 2011. The editors would like to remind authors that AFJEM not only publishes original research of African origin, but can also provide author assistance to first time authors.

In an analysis of thrombolysis for ST-elevation myocardial infarction in the Western Cape, Maharaj et al. found that a 30 minutes door-to-needle target time was achieved in only one fifth of patients. A major positive finding of this study is that one third of patients had a pre-hospital ECG, but, despite this success, delays in the Emergency Centre (EC) and difficulty in interpreting ECGs by junior doctors and a lack of senior doctor presence in the EC precluded timeous intervention. This study has highlighted some of the challenges that need to be addressed for these patients and, undoubtedly, for the speciality as a whole.

The FIFA World Cup 2010 in South Africa had some surprising effects on health care utilisation across the country, with decreases in EC attendance and major trauma. Van Hoving et al. report a similar finding with respect to calls to the Tygerberg Poison Information Centre and speculate about some of the possible reasons.

The South African Triage Score (SATS) was developed in Cape Town and is used in ECs across the country, but has not been validated in other locations or settings. The study by Smith et al. evaluated the SATS in a rural KwaZulu-Natal hospital and showed it to perform within internationally defined guidelines on desirable accuracy, and to perform better than triage based on the Modified Early Warning Score.

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In a study comparing the diagnosis made in the EC with a final hospital discharge diagnosis, Oosthuizen reported an incorrect or incomplete diagnosis in 42.5% (28.3% and 14.2%, respectively) of patients. Although the author suggests that further training of EC doctors might be necessary for the assessment of certain classes of medical conditions that resulted in diagnostic misadventures, it should be remembered that patients with say, a diagnosis of undifferentiated abdominal pain van have admission rates as high as 41%.[1] As long as critically ill patients are resuscitated, sick patients are admitted after commencing appropriate treatment and the less-sick patients are sent home with an appropriate follow-up plan, then an exact diagnosis may not always be that important. It is hard to argue, however, that additional training is ever unnecessary. A real test would be to see whether incorrect diagnosis resulted in an increase in mortality.

In a study from Uganda on student awareness about emergency contraception, Kivila found a high level of knowledge amongst female students about the *morning-after pill* but a lower level of understanding of how it should be used and how it works. This identified an educational necessity to increase the awareness of potential users of emergency contraception on how to use it correctly.

Jabar et al. present the outline of a modified Delphi study that was used to identify factors that can be used as hospital institutional capacity indicators. The Delphi method is an important one in Emergency Medicine and can be used in the absence of evidence-based guidelines to provide a consensus opinion from a number of experts. The process is conducted anonymously via questionnaires in such a way to limit the effects of social interactive behaviour between the experts which can hamper opinion forming.

Podcasts of presentations will be available after the conference. For more information visit www.emssa2011.co.za.

Maharaj R, Geduld H, Wallis LA. A review of the door to needle time for administration of fibrinolytics in acute myocardial infarction in cape town (presentation)

Objectives: To determine the current door to needle time for the administration of fibrinolytics for Acute Myocardial Infarction (AMI) in Emergency Centres (EC) at three hospitals in Cape Town, and to compare it to the current American

Heart Association/American College of Cardiology (AHA/ACC) recommendation of 30 minutes.

Methods: A retrospective audit of all patients receiving thrombolytics for AMI in the ECs of three Cape Town hospitals was performed. Case notes from January 2008 to July 2010 were reviewed. The total door to needle time and its subintervals were collected. In addition, patient demographics, mode of arrival, acquisition of a pre-hospital ECG, level of experience of the treating doctor, symptomology and infarct location were also analysed.

Results: A total of 372 patients with acute ST elevation myocardial infarction (STEMI) were identified. One hundred and sixty one patients were eligible for this study. The median door to needle time achieved was 54 minutes (Range 13–553 min). A door to needle time of 30 minutes or less was achieved in 33 patients (20.5%). More than half of the patients (51.3%) arrived by ambulance. Thirty four percent of patients had a pre-hospital 12 lead ECG. The majority (88.8%) had typical symptoms of myocardial infarction. Medical Officers administered thrombolytics to 44.7% of the cases. The predominant infarct location on ECG was inferior (55.9%).

Conclusion: A significant number of patients were not thrombolysed within 30 minutes of presentation. The lack of senior doctors, difficulty interpreting ECGs, atypical presentations and EC system delays prolonged the door to needle time in this study.

Van Hoving DJ, Gerber E, Veale DJH. The influence of the 2010 FIFA World Cup South Africa on the Tygerberg Poison Information Centre (presentation)

Introduction: The soccer World Cup is one of the biggest sporting events in the world. Careful planning is required to ensure provision of adequate medical care for the fans and general population for the period of the event. Poison Information Centres are a valuable part of any medical system, but data on the effect of sporting events of such a magnitude on the service demand on Poison Information Centres are limited. The aim of this study was to determine the influence of the 2010 FIFA World Cup South Africa™ on the workload of the Tygerberg Poison Information Centre.

Methods: Calls received during the FIFA World Cup (11 June 2010–11 July 2010) were compared to time periods of similar length immediately before and after the World Cup as well as to similar time periods during 2008 and 2009.

Results: The Tygerberg Poison Information Centre received 392 calls during the World Cup month. This was 22.07% less than the same period in 2009 and 19.67% less than in 2008. Furthermore, it was also 17.47% less than the month before and 22.38% less than the month following the World Cup ($p < 0.001$).

Discussion: An unexpected finding of this study was that the hosting of the 2010 FIFA World Cup in South Africa resulted in fewer calls to the Tygerberg Poison Information Centre. This decrease in call volume could be attributed to the high visibility of policing, an extended school holiday and the positive attitudes of South Africans towards making the FIFA World Cup a success.

Smith Z, Davies H, Rosedale K, Wood D. The Effectiveness of the South African Triage Score (SATS) in a Rural Emergency Department (presentation)

Objectives: The Modified Early Warning Score (MEWS) is used to monitor medical inpatients in developed world hospitals. The South African Triage Score (SATS) was developed from MEWS in an urban setting in Cape Town. Its use has been proposed throughout South Africa. We aimed to assess its effectiveness in an emergency department (ED) in a rural setting in KwaZulu-Natal.

Design: A prospective cross-sectional study of patients undertaken over a one month period in June 2009. Data capture included physiological parameters, mobility, and trauma scores, a list of selected clinical conditions (physician discriminator list), MEWS and SATS score, final clinical diagnosis, and outcome in the ED (death, hospital admission or discharge).

Setting: The ED at a government hospital in rural KwaZulu-Natal (KZN), the referral centre for 22 peripheral hospitals.Subjects. Patients attending the ED during working hours during the study period. Outcome measures. Under and over-triage rates according to both systems.

Results: 589 patients were triaged and their data analysed. The MEWS under-triaged 15.1% (over-triaged 8.3%) of cases that needed admission compared with an under-triage rate of 4.4% (over-triaged 4.3%) cases when SATS was used.

Conclusion: Our study adds evidence to support the use of SATS as a primary triage score in South African hospitals both in the urban and rural setting. It has shown that SATS is superior to MEWS as a triage scoring system in a rural hospital ED in KZN. The rates of under and over-triage fall within the limits set by the American College of Surgeons Committee on Trauma (ACSCOT) guidelines.

Oosthuizen A. Correlating Emergency Centre Referral Diagnoses With Final Discharge Diagnoses (presentation)

Objective: To investigate the degree of correlation between emergency centre (EC) and final discharge diagnoses for patients admitted to hospital after presenting acutely to the EC.

Methods: A retrospective review of 1768 consecutive admissions to three urban level two hospitals in Cape Town, South Africa. The primary outcome measure was degree of correlation, reported as complete, incomplete or incorrect. The influence of age, gender, diagnostic type, category of assessing doctor and time of assessment was also considered.

Results: Of all admission diagnoses, 57.5% correlated completely with the final discharge diagnosis, 28.3% were incomplete and 14.2% were incorrect. Diagnostic correlation was best for trauma cases, men and younger patients. Correlation for medical diagnoses was relatively poor, particularly for patients presenting with HIV/TB and related conditions. For patients presenting with medical diagnoses, HIV/TB and related conditions were significantly more common than those relating to the insulin resistance syndrome and its complications.

Conclusion: Our study confirms the existence of a diagnostic gap between initial EC assessment and final diagnosis for over one third of patients admitted to hospital via the EC. HIV/TB and related conditions are common and assessed

poorly. More specific training pertaining to this group may be warranted.

Kivila SK. Knowledge, attitudes and practices regarding emergency contraceptive pills amongst female undergraduate students of Makerere University-Uganda (poster)

Background: Unsafe abortion remains one of the leading causes of the high maternal mortality experienced in Uganda. The highest proportion of these clandestine abortions is done by young women, especially university students. As a method of mitigating this problem, the WHO and affiliate bodies have encouraged the use of modern contraceptive services including emergency contraception. The objective of this study was to determine knowledge, attitudes and practices regarding emergency contraceptive pills (ECPs) amongst female undergraduate students of Makerere University, Kampala, Uganda.

Methods: A cross-sectional study was conducted amongst 424 female undergraduate students residing in Makerere University. Simple random sampling was used to select the participants. The selected students had to be female, aged 18 years and above and residents. Data was collected through self-administered questionnaires and confidentiality enhanced by use of self-adhesive envelopes. Knowledge was measured using multiple choice questions. Attitudes were measured using the Likert scale. Practices were measured using factors associated with past sexual experiences. Data entry and analysis was done using EPI-DATA and SPSS software, respectively.

Results: This study revealed that 81% of the students were aware of ECPs. However, only 52.1% had accurate knowledge about the timing. 29% believed that ECPs are a form of abortion. 23.8% of the population was sexually active.

Conclusion and policy implications: The Ministry of Health and affiliate youth programmes should initiate strategies to bridge the gaps regarding ECPs found here in so as to improve their correct use.

Jabar A, Wallis LA, Rúter A. Modified Delphi Study to Determine Optimal Data Elements (poster)

Objectives: Information and communication technologies (ICT) are introduced into organisations with the goals of managing resources, increasing efficiency and work productivity and reducing workload. In the context of developing countries, these goals are accentuated given the existing conditions and inefficiencies. The aim of this study was to identify hospital institutional capacity indicators to provide recommendations to an emergency management database system operating in the Western Cape province of South Africa as http://hospitalbedbureau.co.za/.

Methodology: A two round accelerated modified Expert Delphi study was conducted by email. A panel of 16 experts drawn from the fields of emergency medicine, critical care, trauma surgery and disaster medicine were consulted. Participants were initially asked to propose hospital institutional capacity indicators that warranted inclusion in the emergency management database system currently operating in Cape Town, South Africa. In the second round these proposals were collated and scored using a seven point Likert scale. Areas that did not reach consensus in the Delphi study will be presented as synopsis statements for discussion at the Emergency Medicine Symposium hosted by the department of Accident and Emergency Western Cape.

Results: Round 1 comprised 237 statements. Consensus was defined a priori to be $>80\%$. A total of 52 of 237 statements had reached consensus upon completion of the Delphi study. This represented 21.9% of the total number of statements. Of these 20 reached consensus at $>90\%$ and 32 reached consensus at $>80\%$.

Conclusion: The use of a Delphi study achieved consensus in aspects of hospital institutional capacity that can be translated into practical recommendations for implementation by the local emergency management database system. Additionally, areas of non-consensus have been identified where further work is required.

Reference

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Mike Wells
Division of Emergency Medicine, University of the Witwatersrand, South Africa
E-mail address: mike.wells@emergencymedicine.co.za

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